

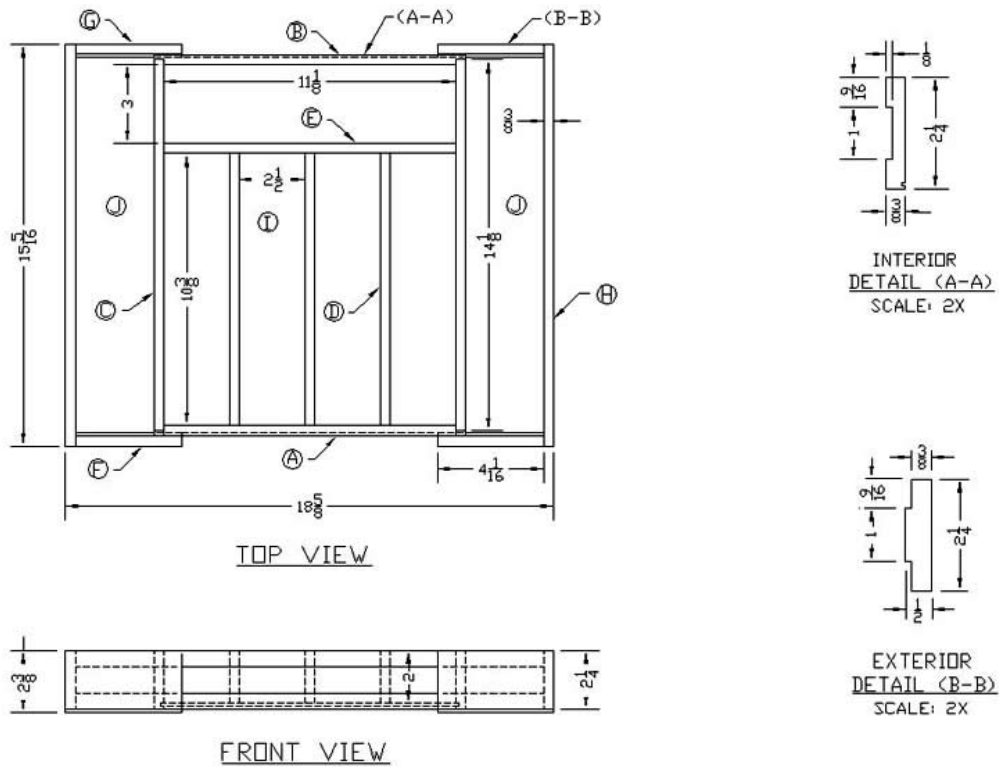
How to Make a Wooden Expandable Flatware Tray

This solid maple tray is a convenient way to neatly store and organize your flatware.

The seven compartment tray expands from 12 5/8" to 19" to fit most drawers. Its versatility allows for the storage of additional things such as, cutlery, utensils, and miscellaneous items as well.



EXPANDABLE FLATWARE TRAY



Technical Information for Making a Wooden Flatware Tray

A. Materials List:

QUANTITY	LETTER	NAME	SIZE	MATERIAL
1	A	Interior Front	3/8" x 2 1/4" x 11 7/8"	Maple
1	B	Interior Back	3/8" x 2 1/4" x 11 7/8"	Maple
2	C	Interior Sides	3/8" x 2 1/4" x 14 1/8"	Maple

3	D	Interior Dividers	3/8" x 2" x 10 3/8"	Maple
1	E	Interior Divider	3/8" x 2" x 11 1/8"	Maple
2	F	Exterior Fronts	1/2" x 2 1/4" x 5 15/16"	Maple
2	G	Exterior Backs	1/2" x 2 1/4" x 5 15/16"	Maple
2	H	Exterior Sides	3/8" x 2 1/4" x 15 5/16"	Maple
1	I	Interior Bottom	1/8" x 11 3/8" x 14"	Maple Ply.
2	J	Exterior Bottom	1/8" x 6 1/16" x 15 1/16"	Maple Ply.

WOOD SPECIES



Sugar Maple

B. Patterns:

1. This project can be made from one Maple Board 3/4" x 7" x 84", and one piece of Maple Plywood 1/8" x 18" x 48".
2. Plane the Maple Board 1/2" thick.
3. Use a radial arm saw to cut the Maple Board into two lengths. These boards should be 12" and 72" long.
4. From the longer board, cut out the letters A, B, C, D, E, & H. From the shorter board, cut out the letters F & G specified on the materials list.
5. Plane the longer board 3/8" thick.
6. Use a radial arm saw to cut off 11 7/8". Set the table saw fence to 2 1/4" and rip the interior front (A) and the interior back (B).
7. Use a radial arm saw to cut off 14 1/8". Rip two boards 2 1/4" wide for the interior sides (C).
8. Cut off 10 3/8" from the board, and rip it into three 2" wide pieces for the interior dividers (D).

9. Cut off 11 1/8" from the board, and rip it 2" wide for the interior divider (E).
10. Adjust the table saw fence 2" from the blade. Adjust the blade height to cut 1/8". Rip a groove in the bottom/inside face of the interior front (A), the interior back (B), and the interior sides (C). These grooves will accommodate the interior bottom (I).
11. From the remainder of the longer board cut off 15 5/16". Rip two pieces 2 1/4" wide for the exterior sides (H).
12. From the shorter, 1/2" thick board cut off two boards, each 5 15/16" long. Rip two pieces from each board 2 1/4" wide for the exterior fronts (F) and the exterior backs (G).
13. Use the table saw to cut the 1/8" thick Maple Plywood 11 3/8" x 14" for the interior bottom (I).
14. Use the table saw to cut the remainder of the Maple Plywood into two pieces, each equal to 6 1/16" x 15 1/16", for the exterior bottoms (J).
15. Attach a dado blade on the radial arm saw, and adjust the blade 3/16" high.
16. Draw a cut line 3/8" in from both ends of the interior front (A) and the interior back (B).
17. With the radial arm saw, cut 3/16" x 3/8" rabbet joints on both ends of the interior front (A) and the interior back (B).
18. Use a router and a 1" straight bit to route a 1/8" x 1" groove the length of the interior front (A) and the interior back (B). See detail (A-A).
19. Use a router and a 9/16" straight bit to route a 1/8" x 9/16" rabbet edge joint the full length of both edges of exterior fronts (F) and the exterior backs (G). See Detail (B-B).
20. To facilitate the routing procedures mentioned in steps #18 & #19, use a vacuum table to hold the pieces in place. Also clamp a board onto the table surface to serve as a straight edge for the router.

C. Sanding Procedures:

1. Hand sand all pieces with a sanding block and 80 grit sandpaper.
2. Intermediate sand with 120 grit sandpaper.
3. Finish sand with 220 grit sandpaper.

D. Assembly Procedures:

1. Place wood glue in the rabbet joints of the interior front (A) and the interior back (B).
2. Place wood glue in the 1/8" grooves in the interior front (A), interior back (B), and the interior sides (C).
3. Position the interior bottom (I) in the front, back, and side grooves.
4. Position the interior sides (C) in the rabbet joints and secure with a band clamp. Use a try square to square the assembly. Allow glue to dry over night.
5. Glue the interior divider (E) in place. Use two 3" blocks to help with the interior spacing.
6. Glue the interior dividers (D) in place. Use 2 1/2" blocks to help with the interior spacing.
7. Use small bar clamps to secure the interior assembly. Remove the spacing blocks and excess glue. Allow glue to dry over night.
8. Turn the interior assembly upside down and use a brad nailer, with 3/8" brads, to nail the bottom (I) to the interior dividers (D) and (E).
9. Glue and clamp the exterior fronts (F) and exterior backs (G) onto the exterior sides (H).
10. Glue and clamp the exterior assembly onto the exterior bottom (J).
11. Nail the exterior bottom onto the exterior assembly as stated in procedure #8.
12. Repeat steps #9 - #11 to assemble the other exterior assembly.
13. After the glue has dried, slip the two exterior expandable trays onto the interior tray. Make sure the fit is correct.
Note: The tongue portion of the exterior fronts (F) and backs (G) should fit smoothly into the grooves of the interior front (A) and the interior back (B). Refer to the details (A-A) and (B-B).
14. Use an orbital sander, with 220 grit sandpaper, to sand all the top edges of the expandable flatware tray flush.

E: Finish Procedures:

1. Use plastic wood dough to fill all holes, cracks and imperfections.
2. When the wood dough is dry hand sand with 220 grit sandpaper.
3. Use a brush to apply a clear finish coat such as Varathane, Polyurethane, lacquer, etc. Allow to dry 12 hours.
4. Lightly hand sand finish with 220 grit sandpaper.
5. Apply second coat of clear finish.
6. If additional finish coats are desired, repeat steps #3 and #4.
7. Allow 24 hours for the finish to dry sufficiently.

Notes:

1. Be sure to match the color of the wood dough to the stain color or the finish color.
2. Use a tack rag after each sanding procedure to remove the dust.
3. Apply wax on the tongue and groove joints for smoother operation.
4. This flatware tray will accommodate a 20" x 18" drawer. The tray dimensions can be altered to accommodate different drawer dimensions.

*Congratulations, your **wooden flatware tray** is finished and ready to use!